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REPORT OF TAR AND NICOTINE CONTENT OF
THE SMOKE OF 119 VARIETIES OF CIGARETTES
NOVEMBER 19, 1969

The Federal Trade Commission's laboratory has determined the tar (dry particulate matter) and total alkaloid (reported as nicotine) content of 119 varieties of cigarettes. The laboratory utilized the Cambridge filter method with the following specifications as set forth in the Commission's announcement of July 31, 1967:

1. Smoke cigarettes to a 23 mm. butt length, or to the length of the filter and overwrap plus 3mm. if in excess of 23 mm.,
2. Base results on a test of 100 cigarettes per brand, or type,
3. Cigarettes to be tested will be selected on a random basis, as opposed to "weight selection",
4. Determine particulate matter on a "dry" basis employing the gas chromatography method published by C. H. Sloan and B. J. Sublett in Tobacco Science 9, page 70, 1965, as modified by F. J. Schultz and A. W. Spears' report published in Tobacco Vol. 162, No. 24, page 32, dated June 17, 1966, to determine the moisture content,
5. Determine and report the "tar" content after subtracting moisture and alkaloids (as nicotine) from particulate matter.

Concerning the 119 varieties tested, 31 were capable of being smoked to 23 mm. or to an average range of between 23 and 24 mm. The butt lengths of the other 88 varieties tested ranged from 23 mm. to an average of between 34.0 and 38.0 mm. The butt lengths of 25 of the 119 varieties tested exceeded 30 mm.

The samples used were obtained by attempting to purchase two packages of each variety of cigarettes during July of 1969 in each of 50 geographic locations throughout the country. All varieties of cigarettes were not available in each of the 50 geographic locations and in these instances, one or more

additional packages of cigarettes were purchased in those geographic locations where the respective varieties were available. The samples utilized in the tests were representative of the 119 varieties of cigarettes as available throughout the country at the time of purchase.

In the interest of scientific accuracy the tar content is reported to the nearest 1/10 milligram and the nicotine to the nearest 1/100 milligram, each with appropriate statistical values, in the table in which varieties are listed in alphabetical order. In the twotables which respectively list varieties in increasing order of tar values and in increasing order of nicotine values, and in two lists tabulating the current and three previous tests, the average weight and butt length columns have been eliminated; types of cigarettes are more clearly described; tar figures have been rounded off to whole numbers and nicotine figures to tenths of milligrams; and figures representing the standard deviation of the mean have been eliminated. Accordingly, tar and nicotine figures in these tables and lists represent rounded off averages without indication of their precision.

"Tar" and Nicotine⁵ Content of One-hundred-nineteen (119) Varieties of Domestic Cigarettes

Name	Type ¹	Average weight ²	Butt length ³	TPM dry ⁴	Nicotine ⁵
Alpine	F, M, SP	85 mm	1.0362	27-30 mm	19.1 ± 0.3
Balair	F, M, SP	85 mm	0.9640	27.5-29 mm	18.2 ± 0.4
Benson & Hedges	F, HWP	70 mm	0.8802	23 mm	19.6 ± 0.3
Benson & Hedges	F, HWP	85 mm	1.0194	26.5-28.5 mm	19.5 ± 0.3
Benson & Hedges	F, SP	100 mm	1.1720	34.5-35.5 mm	20.3 ± 0.2
Benson & Hedges	F, M, SP	100 mm	1.1991	34-38 mm	20.7 ± 0.3
Bull Durham	F, SP	85 mm	1.2225	28-29.5 mm	29.0 ± 0.5
Camel	NF, SP	70 mm	0.9690	23 mm	24.9 ± 0.5
Carlton	F, SP	85 mm	1.0464	26-28 mm	21.1 ± 0.4
Century	F, SP	100 mm	1.2253	32-34 mm	4.5 ± 0.4
Chesterfield	NF, SP	70 mm	0.9647	32-33.5 mm	20.6 ± 0.4
Chesterfield	NF, SP	85 mm	1.1609	23 mm	24.0 ± 0.4
Chesterfield	F, SP	85 mm	1.0078	26.4-27.9 mm	23 mm
Chesterfield	F, M, SP	85 mm	1.0453	26-27.5 mm	21.1 ± 0.4
Chesterfield	F, SP	101 mm	1.2088	29-31.5 mm	19.3 ± 0.5
Domino	NF, SP	85 mm	1.2300	23 mm	21.1 ± 0.3
Domino	F, SP	85 mm	1.1521	23-25 mm	24.9 ± 0.5
Domino	F, M, SP	85 mm	1.1426	23-25.3 mm	20.9 ± 0.4
Doral	F, SP	85 mm	1.1873	32.7-33.7 mm	16.4 ± 0.5
Doral	F, M, SP	85 mm	1.1442	32-33.5 mm	14.4 ± 0.5
Duke	F, SP	85 mm	1.1291	32.7-34.1 mm	14.7 ± 0.5
DuMaurier	F, HWP	85 mm	1.0629	26-28.5 mm	10.1 ± 0.4
English Ovals	NF, HWP	70 mm	0.9638	23 mm	28.1 ± 0.5
English Ovals	NF, HWP	85 mm	1.2017	23 mm	31.0 ± 0.5
Zatima	NF, SP	85 mm	1.2112	23 mm	32.2 ± 0.4
Frappe	F, M, SP	85 mm	1.1212	26-27.7 mm	10.1 ± 0.4
Galaxy	F, SP	85 mm	1.1597	27.1-31.7 mm	20.2 ± 0.3
Gauloises Caporal	NF, SP	70 mm	1.0876	23 mm	23.8 ± 0.5
Gauloises Disque Bleu	F, SP	70 mm	1.0448	23 mm	21.1 ± 0.5
Half & Half	F, SP	85 mm	1.1623	25.5-28 mm	22.2 ± 0.5
Herbert Careyton	NF, SP	85 mm	1.1199	23 mm	26.6 ± 0.5
Holiday	NF, SP	85 mm	1.2131	23 mm	30.6 ± 0.5
Holiday	F, SP	85 mm	1.1850	23-25.4 mm	24.6 ± 0.6
Home Run	NF, SP	70 mm	0.9005	23 mm	19.4 ± 0.5
Kent	F, SP	70 mm	0.8855	25.5-29.7 mm	9.7 ± 0.4
Kent	F, HP	80 mm	0.9706	24-29.5 mm	16.9 ± 0.3
Kent	F, SP	85 mm	1.0010	26.3-28.8 mm	16.1 ± 0.3
Kent	F, SP	100 mm	1.1910	32.2-34 mm	18.9 ± 0.3
King Sano	F, SP	85 mm	1.1089	27-29 mm	6.6 ± 0.3
King Sano	F, M, SP	85 mm	1.1521	26-29.2 mm	6.7 ± 0.2
Kool	NF, M, SP	70 mm	0.6413	23 mm	20.8 ± 0.5
Kool	F, M, SP	85 mm	0.9625	27.5-29 mm	17.8 ± 0.3
Kool	F, M, SP	100 mm	1.1302	31.3-34.7 mm	19.8 ± 0.4
Lark	F, SP	85 mm	1.1466	27-29 mm	17.3 ± 0.3
Lark	F, SP	100 mm	1.2640	29.8-31.7 mm	17.9 ± 0.3
Life	F, SP	85 mm	0.9931	32-35.5 mm	10.5 ± 0.2
L & M	F, SP	70 mm	0.8922	23-25 mm	16.7 ± 0.4
L & M	F, HP	80 mm	0.9626	26-28 mm	17.5 ± 0.4
L & M	F, SP	85 mm	0.9865	26.7-28 mm	19.1 ± 0.3
L & M	F, SP	100 mm	1.2055	29.5-30.7 mm	19.1 ± 0.4
L & M	F, M, SP	100 mm	1.2151	28.5-32.5 mm	18.5 ± 0.4
Lucky Strike	NF, SP	70 mm	0.9493	23 mm	27.6 ± 0.4
Lucky Filters	F, SP	85 mm	1.0689	26.5-33.2 mm	21.2 ± 0.4
Lucky Filters	F, SP	100 mm	1.2160	32.5-33.7 mm	20.2 ± 0.4
Mapleton	NF, SP	70 mm	1.0096	23 mm	25.6 ± 0.5
Mapleton	F, SP	85 mm	1.0823	27.6-28.7 mm	21.8 ± 0.5
Marlboro	F, HP	80 mm	1.0025	25.5-26.5 mm	19.3 ± 0.3
Marlboro	F, SP	85 mm	1.0296	27.3-28.7 mm	20.3 ± 0.3
Marlboro	F, SP	100 mm	1.2124	32-34 mm	21.5 ± 0.4
Marlboro	F, HP	100 mm	1.1416	29.5-34.5 mm	21.1 ± 0.3
Marlboro	F, M, SP	85 mm	1.0585	27.6-28.9 mm	20.6 ± 0.4

1 F- filter; NF- non-filter; M- menthol; HP- hard pack; SP- soft pack; HWP- hard wide pack;
mm- millimeters; PB- plastic box

2 average weight reported in grams

3 range used for butt length because of variance of overwrap

4 TPM dry (tar)- milligrams total particulate matter less nicotine and water

5 milligrams total alkaloids reported as nicotine

6 limited availability based on reduced sampling

7 tolerance shown is two (2) standard deviation of the mean

Tar⁴ and Nicotine⁵ Content of One-hundred-nineteen (119) Varieties of Domestic Cigarette

Name	Type ¹	Average weight ²	Butt length ³	TPM dry ⁴	Nicotine ⁵
Marvels	NF, SP	70 mm	0.9732	23 mm	19.7 ± 0.4
Marvels	F, SP	70 mm	0.9509	26-29 mm	13.6 ± 0.2
Marvels	NF, SP	85 mm	1.2018	23 mm	24.4 ± 0.4
Marvels	F, M, SP	85 mm	1.1210	28-28.6 mm	4.0 ± 0.2
Marvels	F, SP	85 mm	1.0758	27-29 mm	5.8 ± 0.3
Montclair	F, M, SP	85 mm	0.9901	26-28.3 mm	9.2 ± 0.4
Newport	F, M, HP	80 mm	0.9706	23-26 mm	19.2 ± 0.5
Newport	F, M, SP	85 mm	0.9912	25.8-27.8 mm	20.2 ± 0.5
Newport	F, M, SP	100 mm	1.2010	27.5-33.8 mm	20.9 ± 0.4
Oasis	F, M, SP	85 mm	1.0244	24-27.8 mm	18.7 ± 0.5
Old Gold	NF, SP	70 mm	0.8782	23 mm	21.8 ± 0.4
Old Gold	NF, SP	85 mm	1.0511	23 mm	27.0 ± 0.4
Old Gold	F, SP	85 mm	0.9140	25.5-28 mm	17.9 ± 0.4
Old Gold	F, SP	100 mm	1.2021	32-34 mm	23.6 ± 0.4
Pall Mall	NF, SP	85 mm	1.1246	23 mm	28.1 ± 0.4
Pall Mall	F, HWP	95 mm	1.1091	23-33.5 mm	18.5 ± 0.4
Pall Mall	F, M, HWP	95 mm	1.0874	31-35 mm	16.9 ± 0.3
Pall Mall	F, SP	100 mm	1.1294	32-34 mm	19.3 ± 0.3
Pall Mall	F, M, SP	100 mm	1.0993	32.4-34.4 mm	17.9 ± 0.2
Parliament	F, HP	80 mm	1.0212	30.7-32 mm	15.6 ± 0.3
Parliament	F, SP	85 mm	1.0628	32.3-33.7 mm	16.2 ± 0.3
Philip Morris	NF, SP	70 mm	0.9518	23 mm	23.7 ± 0.4
Philip Morris Commander	NF, SP	85 mm	1.1528	23 mm	28.6 ± 0.5
Philip Morris	F, P2	85 mm	1.1189	27.7-29.7 mm	19.1 ± 0.4
Philip Morris	F, M, PB	85 mm	1.1736	28.5-35 mm	14.6 ± 0.6
Picayune	NF, SP	70 mm	0.9031	23 mm	19.5 ± 0.4
Piedmont	NF, SP	70 mm	0.9957	23 mm	24.2 ± 0.5
Players	NF, HWP	70 mm	1.0947	23 mm	31.2 ± 0.6
Raleigh	NF, SP	85 mm	1.0876	23 mm	25.4 ± 0.5
Raleigh	F, SP	85 mm	1.0307	27-29.8 mm	17.8 ± 0.4
Salem	F, M, SP	85 mm	1.0471	26.6-28 mm	19.5 ± 0.4
Salem	F, M, SP	100 mm	1.2425	31.2-34.5 mm	21.3 ± 0.2
Sano	NF, SP	70 mm	1.0128	23 mm	14.3 ± 0.4
Silva Thins	F, SP	100 mm	1.0453	32-34.2 mm	15.5 ± 0.3
Silva Thins	F, M, SP	100 mm	1.0256	34.4-33.7 mm	15.8 ± 0.4
Spring	F, M, SP	100 mm	1.1911	32-34.5 mm	21.2 ± 0.1
Stratford	NF, SP	85 mm	1.2195	23 mm	23.9 ± 0.4
Stratford	F, SP	85 mm	1.1278	26.5-29 mm	18.3 ± 0.5
Stratford	F, M, SP	85 mm	1.0571	26.8-29.7 mm	19.3 ± 0.4
Tareyton	F, SP	85 mm	1.0699	25.7-26.9 mm	16.3 ± 0.5
Tareyton	F, SP	100 mm	1.2162	32.7-33.7 mm	17.7 ± 0.3
Tempo	F, SP	85 mm	1.0533	26.9-34.3 mm	12.1 ± 0.3
True	F, SP	85 mm	1.0536	32.4-34 mm	12.5 ± 0.3
True	F, M, SP	85 mm	1.0357	31.1-34 mm	12.3 ± 0.4
Tryon	F, SP	85 mm	1.1428	27.8-28.6 mm	12.2 ± 0.2
Tryon	F, M, SP	85 mm	1.1168	26.5-29.5 mm	10.6 ± 0.3
Viceroy	F, SP	85 mm	1.0058	26.9-29 mm	18.2 ± 0.2
Viceroy	F, SP	100 mm	1.2105	31.3-34.5 mm	19.3 ± 0.3
Virginia Slims	F, SP	100 mm	1.0834	34.5-35.7 mm	17.7 ± 0.3
Virginia Slims	F, M, SP	100 mm	1.0148	35-36.5 mm	18.2 ± 0.4
Vogue (colors)	F, HWP	85 mm	1.1329	23-24 mm	13.1 ± 0.5
Vogue (black)	F, HWP	85 mm	1.1329	23 mm	19.8 ± 0.8
Winston	F, HP	80 mm	1.0287	23.3-24.7 mm	20.5 ± 0.4
Winston	F, SP	95 mm	1.0374	26-27.5 mm	20.9 ± 0.4
Winston	F, SP	100 mm	1.2203	32-34 mm	21.3 ± 0.3
Winston	F, M, SP	100 mm	1.2755	32.7-33.5 mm	21.2 ± 0.4
Yukon	F, M, SP	85 mm	1.1141	23-25 mm	20.2 ± 0.5

¹ F- filter; NF- non-filter; M- menthol; HP- hard pack; SP- soft pack; HWP- hard wide pack;

² mm- millimeters; PB- plastic box

³ average weight reported in grams

⁴ range used for butt length because of variance of overwrap

⁵ TPM dry (tar)- milligrams total particulate matter less nicotine and water

⁶ milligrams total alkaloids reported as nicotine

⁷ limited availability based on reduced sampling

⁸ tolerance shown is two (2) standard deviation of the mean

**Tar and Nicotine Content of One Hundred-nineteen (119) Varieties
of Domestic Cigarettes**
(shown in increasing order of tar values)

Brand	Type	Tar (mg/cig)	Nicotine (mg/cig)
Marvels	reg. size, filter	4	0.1
Marvels	king size, filter, menthol	4	0.2
Carlton	king size, filter	5	0.4
Marvels	king size, filter	6	0.2
King Sano	king size, filter	7	0.2
King Sano	king size, filter, menthol	7	0.2
Montclair	king size, filter, menthol	9	0.7
Kent	reg. size, filter	10	0.6
Duke	king size, filter	10	0.4
Frappe	king size, filter, menthol	10	0.4
Life	king size, filter	11	0.7
Tryon	king size, filter, menthol	11	0.7
Tempo	king size, filter	12	0.8
Tryon	king size, filter	12	0.9
True	king size, filter, menthol	12	0.7
True	king size, filter	13	0.7
Vogue (colors)	king size, filter, (hard pack)	13	0.5
Sano	reg. size, non-filter	14	0.5
Doral	king size, filter, menthol	14	1.0
Philip Morris	king size, filter, menthol, (plastic box)	15	1.1
Doral	king size, filter	15	1.0
Silva Thins	100 mm, filter	16	0.9
Parliament	king size, filter, (hard pack)	16	1.0
Silva Thins	100 mm, filter, menthol	16	1.0
Kent	king size, filter	16	1.0
Parliament	king size, filter	16	1.1
Tareyton	king size, filter, menthol	16	1.0
Domino	100 mm, filter	17	1.1
Tareyton	reg. size, filter	17	1.0
L & M	king size, filter, (hard pack)	17	1.1
Kent	95 mm, filter, menthol, (hard pack)	17	1.1
Pall Mall	king size, filter	17	1.1
Lark	king size, filter	17	1.1
L & M	king size, filter, (hard pack)	18	1.1
Virginia Slims	100 mm, filter	18	1.2
Kool	king size, filter, menthol	18	1.5
Raleigh	king size, filter	18	1.3
Pall Mall	100 mm, filter, menthol	18	1.2
Lark	100 mm, filter	18	1.1
DuMaurier	king size, filter, (hard pack)	18	1.4
Viceroy	king size, filter	18	1.3
Virginia Slims	100 mm, filter, menthol	18	1.2
Belair	king size, filter, menthol	18	1.5
Stratford	king size, filter	18	0.7
L & M	100 mm, filter, menthol	19	1.2
Pall Mall	95 mm, filter, (hard pack)	19	1.2
Oasis	king size, filter, menthol	19	1.1
Kent	100 mm, filter	19	1.2
L & M	king size, filter	19	1.1
Alpine	king size, filter, menthol	19	1.3
L & M	100 mm, filter	19	1.1
Philip Morris	king size, filter, (plastic box)	19	1.4
Newport	king size, filter, menthol, (hard pack)	19	1.2
Marlboro	king size, filter, (hard pack)	19	1.3
Pall Mall	100 mm, filter	19	1.3
Viceroy	100 mm, filter	19	1.5
Stratford	king size, filter, menthol	19	0.8
Chesterfield	king size, filter, menthol	19	1.1
Home Run	reg. size, non-filter	19	1.5
Benson & Hedges	king size, filter, (hard pack)	20	1.5
Salem	king size, filter, menthol	20	1.4
Picayune	reg. size, non-filter	20	1.6
Benson & Hedges	reg. size, filter, (hard pack)	20	1.4
Marvels	reg. size, non-filter	20	0.7
Kool	100 mm, filter, menthol	20	1.5

¹ TPM dry (tar) = milligrams total particulate matter less nicotine and water

Tar and Nicotine Content of One hundred-nineteen (119) Varieties
of Domestic Cigarettes
(shown in increasing order of tar values)

Brand	Type	Tar (mg/cig.)	Nicotine (mg/cig.)
Vogue (black)	king size, filter, (hard pack)	20	0.7
Old Gold	king size, filter	20	1.2
Galaxy	king size, filter	20	1.5
Lucky Filters	100 mm, filter	20	2.4
Yukon	king size, filter, menthol	20	0.9
Newport	king size, filter, menthol	20	1.2
Benson & Hedges	100 mm, filter	20	1.4
Marlboro	king size, filter	21	1.4
Winston	king size, filter, (hard pack)	21	1.3
Century	100 mm, filter	21	1.4
Marlboro	king size, filter, menthol	21	1.4
Benson & Hedges	100 mm, filter, menthol	21	1.5
Kool	reg. size, non-filter, menthol	21	1.0
Domino	king size, filter	21	1.3
Newport	100 mm, filter, menthol	21	1.4
Winston	king size, filter	21	1.5
Chesterfield	101 mm, filter	21	1.5
Marlboro	100 mm, filter, (hard pack)	21	1.4
Camel	king size, filter	21	1.4
Chesterfield	king size, filter	21	1.2
Gauloises Disque Bleu	reg. size, filter	21	1.2
Spring	100 mm, filter, menthol	21	1.4
Lucky Filters	king size, filter	21	1.5
Winston	100 mm, filter, menthol	21	1.5
Salem	100 mm, filter, menthol	21	1.5
Winston	100 mm, filter	21	1.5
Marlboro	100 mm, filter	22	1.5
Old Gold	reg. size, non-filter	22	1.3
Mapleton	king size, filter	22	1.0
Half & Half	king size, filter	22	1.5
Old Gold	100 mm, filter	24	1.5
Philip Morris	reg. size, non-filter	24	1.6
Gauloises Caporal	reg. size, non-filter	24	1.2
Stratford	king size, non-filter	24	1.0
Chesterfield	reg. size, non-filter	24	1.4
Piedmont	reg. size, non-filter	24	0.9
Marvels	king size, non-filter	24	1.6
Holiday	king size, filter	25	1.1
Domino	king size, non-filter	25	1.6
Camel	reg. size, non-filter	25	1.7
Raleigh	king size, non-filter	25	1.1
Mapleton	reg. size, non-filter	26	1.6
Herbert Tareyton	king size, non-filter	27	1.6
Old Gold	king size, non-filter	27	1.6
Lucky Strike	reg. size, non-filter	28	1.6
Fall Hall	king size, non-filter	28	1.8
English Ovals	reg. size, non-filter, (hard pack)	28	2.1
Chesterfield	king size, non-filter	29	1.6
Philip Morris Commander	king size, non-filter	29	1.9
Bull Durham	king size, filter	29	1.8
Holiday	king size, non-filter	31	1.9
English Ovals	king size, non-filter, (hard pack)	31	2.5
Players	reg. size, non-filter, (hard pack)	31	2.1
Fatima	king size, non-filter	32	1.9

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water

Tar and Nicotine Content of One Hundred-nineteen (119) Varieties
of Domestic Cigarettes
(shown in increasing order of nicotine values)

Brand	Type	Tar (mg/cig)	Nicotine (mg/cig)
Marvels	reg. size, filter	4	0.1
Marvels	king size, filter, menthol	4	0.2
Marvels	king size, filter	6	0.2
King Sano	king size, filter	7	0.2
King Sano	king size, filter, menthol	7	0.2
Frappe	king size, filter, menthol	10	0.4
Duke	king size, filter	10	0.4
Carlton	king size, filter	5	0.4
Vogue (colors)	king size, filter, (hard pack)	13	0.5
Sano	reg. size, non-filter	14	0.5
Kent	reg. size, filter	10	0.6
True	king size, filter, menthol	12	0.7
Montclair	king size, filter, menthol	9	0.7
True	king size, filter	13	0.7
Vogue (black)	king size, filter, (hard pack)	20	0.7
Lite	king size, filter	11	0.7
Stratford	king size, filter	18	0.7
Marvels	reg. size, non-filter	20	0.7
Tryon	king size, filter, menthol	11	0.8
Stratford	king size, filter, menthol	19	0.8
Tempo	king size, filter	12	0.8
Yukon	king size, filter, menthol	20	0.9
Marvels	king size, non-filter	24	0.9
Tryon	king size, filter	12	0.9
Domino	king size, filter, menthol	16	0.9
Silva Thins	100 mm, filter	16	0.9
Domino	king size, filter	21	1.0
L & M	reg. size, filter	17	1.0
Silva Thins	100 mm, filter, menthol	16	1.0
Stratford	king size, non-filter	24	1.0
Mapleton	king size, filter	22	1.0
Kent	king size, filter	16	1.0
Doral	king size, filter	15	1.0
Tareyton	king size, filter	16	1.0
Doral	king size, filter, menthol	14	1.0
Parliament	king size, filter, (hard pack)	16	1.0
Parliament	king size, filter	16	1.1
Kent	king size, filter, (hard pack)	17	1.1
Lark	king size, filter	17	1.1
L & M	king size, filter, (hard pack)	18	1.1
Tareyton	100 mm, filter	17	1.1
Philip Morris	king size, filter, menthol, (plastic box)	15	1.1
Pall Mall	95 mm, filter, menthol, (hard pack)	17	1.1
L & M	king size, filter	19	1.1
Oasis	king size, filter, menthol	19	1.1
Mapleton	reg. size, non-filter	26	1.1
Domino	king size, non-filter	25	1.1
Lark	100 mm, filter	18	1.1
Chesterfield	king size, filter, menthol	19	1.1
L & M	100 mm, filter	19	1.1
Gauloises Disque Bleu	reg. size, filter	21	1.2
Spring	100 mm, filter, menthol	21	1.2
L & M	100 mm, filter, menthol	19	1.2
Newport	king size, filter, menthol, (hard pack)	19	1.2
Kent	100 mm, filter	19	1.2
Virginia Slims	100 mm, filter	18	1.2
Pall Mail	100 mm, filter, menthol	18	1.2
Newport	king size, filter, menthol	20	1.2
Gauloises Caporal	reg. size, non-filter	24	1.2
Pall Mail	95 mm, filter, (hard pack)	19	1.2
Old Gold	king size, filter	20	1.2
Virginia Slims	100 mm, filter, menthol	18	1.2
Alpine	king size, filter, menthol	19	1.3
Century	100 mm, filter	21	1.3
Marlboro	king size, filter, (hard pack)	19	1.3

1 TPK dry (tar) - milligrams total particulate matter less nicotine and water

Tar and Nicotine Content of One Hundred-nineteen (119) Varieties
of Domestic Cigarettes
(shown in increasing order of nicotine values)

Brand	Type	Tar (mg/cig)	Nicotine (mg/cig)
Pall Mall	100 mm, filter	19	1.3
Raleigh	king size, filter	18	1.3
Old Gold	reg. size, non-filter	22	1.3
Newport	100 mm, filter, menthol	21	1.3
Viceroy	king size, filter	18	1.3
Chesterfield	reg. size, non-filter	24	1.3
Salem	king size, filter, menthol	20	1.4
Lucky Filters	100 mm, filter	20	1.4
Winston	king size, filter, (hard pack)	21	1.4
Marlboro	king size, filter	20	1.4
DuMaurier	king size, filter, (hard pack)	18	1.4
Philip Morris	king size, filter, (plastic box)	19	1.4
Winston	king size, filter	21	1.4
Benson & Hedges	reg. size, filter, (hard pack)	20	1.4
Camel	king size, filter	21	1.4
Piedmont	reg. size, non-filter	24	1.4
Lucky Filters	king size, filter	21	1.4
Benson & Hedges	100 mm, filter	20	1.4
Marlboro	king size, filter, menthol	21	1.4
Benson & Hedges	100 mm, filter, menthol	21	1.4
Chesterfield	king size, filter	21	1.4
Kool	king size, filter, menthol	18	1.5
Galaxy	king size, filter	20	1.5
Viceroy	100 mm, filter	19	1.5
Chesterfield	101 mm, filter	21	1.5
Kool	reg. size, non-filter, menthol	21	1.5
Benson & Hedges	king size, filter, (hard pack)	20	1.5
Marlboro	100 mm, filter, (hard pack)	21	1.5
Belair	king size, filter, menthol	18	1.5
Salem	100 mm, filter, menthol	21	1.5
Winston	100 mm, filter	21	1.5
Winston	100 mm, filter, menthol	21	1.5
Marlboro	100 mm, filter	22	1.5
Old Gold	100 mm, filter	24	1.5
Kool	100 mm, filter, menthol	20	1.5
Half & Half	king size, filter	22	1.5
Home Run	reg. size, non-filter	19	1.5
Herbert Tareyton	king size, non-filter	27	1.6
Philip Morris	reg. size, non-filter	24	1.6
Camel	reg. size, non-filter	25	1.6
Holiday	king size, filter	25	1.6
Picayune	reg. size, non-filter	20	1.6
Lucky Strike	reg. size, non-filter	28	1.6
Old Gold	king size, non-filter	27	1.6
Chesterfield	king size, non-filter	29	1.6
Raleigh	king size, non-filter	25	1.7
Pall Mall	king size, non-filter	28	1.8
Bull Durham	king size, filter	29	1.8
Fatima	king size, non-filter	32	1.9
Holiday	king size, non-filter	31	1.9
Philip Morris Commander	king size, non-filter	29	1.9
Players	reg. size, non-filter, (hard pack)	31	2.1
English Ovals	reg. size, non-filter, (hard pack)	28	2.1
English Ovals	king size, non-filter, (hard pack)	31	2.5

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water

Listing of "Faral" Values for Four (-) Testing Periods

Brand	Type	Oct., 1966	Feb., 1967	July, 1967	Nov., 1967
Alpine	king size, filter, menthol	20	20	20	19
Belair	king size, filter, menthol	19	19	19	18
Benson & Hedges	reg. size, filter, (hard pack)	21	20	20	20
Benson & Hedges	king size, filter, (hard pack)	20	21	20	20
Benson & Hedges	100 mm filter	21	21	21	20
Benson & Hedges	100 mm filter, menthol	21	21	22	20
Bull Durham	king size, filter	30	29	29	29
Camel	reg. size, non-filter	26	26	25	25
Camel	king size, filter	21	21	21	21
Carlton	king size, filter	4	5	*	*
Cascade	king size, filter, menthol	7	8	*	*
Century	100 mm filter	24	23	22	21
Chesterfield	reg. size, non-filter	25	25	25	24
Chesterfield	king size, non-filter	30	29	30	29
Chesterfield	king size, filter	22	23	22	21
Chesterfield	king size, filter, menthol	21	21	20	19
Chesterfield	101 mm filter	21	21	20	21
Colony	100 mm filter	28	29	*	*
Colony	100 mm, filter, menthol	26	26	*	*
Domino	king size, non-filter	26	25	26	25
Domino	king size, filter	21	22	21	21
Domino	king size, filter, menthol	14	14	16	16
Doral	king size, filter	*	*	*	15
Doral	king size, filter, menthol	*	*	*	14
Duke of Durham	king size, filter	11	10	10	10
DuMaurier	king size, filter, (hard pack)	19	18	18	18
English Ovals	reg. size, non-filter, (hard pack)	28	27	28	28
English Ovals	king size, non-filter, (hard pack)	36	30	35	31
Fatima	king size, non-filter	33	33	32	32
Frappe	king size, filter, menthol	2	10	11	10
Galaxy	king size, filter	21	21	21	20
Gauloises Ceporal	reg. size, non-filter	25	25	26	24
Gauloises Disque Bleu	reg. size, filter	22	23	23	21
Half & Half	king size, filter	26	24	23	22
Helmar	king size, filter, (hard pack)	25	25	*	*
Herbert Tareyton	king size, non-filter	31	31	29	27
Holiday	king size, non-filter	34	35	32	31
Holiday	king size, filter	26	27	25	25
Home Run	reg. size, non-filter	21	20	20	19
Kent	reg. size, filter	15	12	10	10
Kent	king size, filter, (hard pack)	17	18	17	17
Kent	king size, filter	17	17	17	16
Kent	100 mm filter	19	20	18	19
King Sano	king size, filter	7	7	7	7
King Sano	king size, filter, menthol	10	8	8	7
Kool	reg. size, non-filter, menthol	23	22	21	21
Kool	king size, filter, menthol	19	19	19	18
Kool	100 mm, filter, menthol	20	21	21	20
Lark	king size, filter	18	18	18	17
Lark	100 mm filter	*	19	19	18
Life	king size, filter	11	11	11	11
L & M	reg. size, filter	17	16	17	17
L & M	king size, filter, (hard pack)	18	19	18	18
L & M	king size, filter	19	20	20	19
L & M	100 mm filter	21	20	19	19
L & M	100 mm, filter, menthol	20	20	20	19
Lucky Strike	reg. size, non-filter	28	29	28	28
Lucky Filters	king size, filter	22	21	22	21
Lucky Filters	king size, filter, menthol	20	20	20	20
Lucky Filters	100 mm filter	21	21	21	20
Lucky Filters	100 mm, filter, menthol	19	19	18	*
Mapleton	reg. size, non-filter	23	24	24	26
Mapleton	king size, filter	21	21	22	22
Marlboro	king size, filter, (hard pack)	20	21	20	19
Marlboro	king size, filter	21	22	21	20
Marlboro	100 mm filter	22	23	22	21
Marlboro	100 mm, filter, (hard pack)	22	22	21	21
Marlboro	king size, filter, menthol	20	21	21	21
Marvels	reg. size, non-filter	19	19	18	20
Marvels	reg. size, filter	4	4	3	4
Marvels	king size, non-filter	23	25	24	24

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water.

* Denotes varieties not available during market sampling.

Listing of "tar" Values for Four (4) Testing Periods

Brand	Type	Oct., 1968	Feb., 1969	July, 1969	Nov., 1969
Marvels	King size, filter, menthol	6	5	5	6
Marvels	King size, filter	7	7	6	6
Montclair	King size, filter, menthol	9	11	9	9
Newport	King size, filter, menthol, (hard pack)	21	21	20	19
Newport	King size, filter, menthol	21	21	21	20
Newport	100 mm, filter, menthol	22	21	22	21
Oasis	King size, filter, menthol	20	21	19	19
Old Gold	reg. size, non-filter	23	23	23	22
Old Gold	king size, non-filter	29	29	28	27
Old Gold	king size, filter	21	21	21	20
Old Gold	100 mm filter	*	*	*	24
Omar	reg. size, non-filter	30	30	*	*
Pall Mall	king size, non-filter	28	29	28	28
Pall Mall	95 mm, filter, (hard pack)	19	19	19	19
Pall Mall	95 mm, filter, menthol, (hard pack)	19	19	18	17
Pall Mall	100 mm filter	20	20	19	19
Pall Mall	100 mm, filter, menthol	19	19	17	18
Parliament	King size, filter, (hard pack)	16	16	16	16
Parliament	King size, filter	16	17	16	16
Philip Morris	reg. size, non-filter	25	25	25	24
Philip Morris Commander	King size, non-filter	31	32	30	29
Philip Morris	King size, filter	19	19	19	19
Philip Morris	King size, filter, menthol	20	20	20	15
Picayune	reg. size, non-filter	19	21	21	20
Piedmont	reg. size, non-filter	26	25	25	24
Players	reg. size, non-filter, (hard pack)	31	32	32	31
Raleigh	king size, non-filter	30	30	25	25
Raleigh	king size, filter	19	19	19	16
Salem	King size, filter, menthol	21	21	20	20
Salem	100 mm, filter, menthol	22	22	21	21
Sano	reg. size, non-filter	17	17	14	14
Sano	reg. size, filter	*	4	4	*
Silva Thins	100 mm filter	15	15	15	16
Silva Thins	king size, filter, menthol	*	15	16	16
Spring	100 mm, filter, menthol	20	21	21	21
Stratford	King size, non-filter	24	26	25	24
Stratford	King size, filter	19	20	19	19
Stratford	King size, filter, menthol	19	21	21	19
Sweet Caporal	King size, filter	23	23	*	*
Tareyton	King size, filter	17	14	13	12
Tareyton	100 mm filter	18	18	16	17
Tempo	King size, filter	17	14	13	12
True	King size, filter	13	13	12	13
True	King size, filter, menthol	13	13	12	12
Tryon	King size, filter	13	12	*	12
Tryon	King size, filter, menthol	11	11	11	11
Viceroy	King size, filter	18	20	19	18
Viceroy	100 mm filter	19	21	20	19
Virginia Slims	100 mm filter	*	18	18	18
Virginia Slims	100 mm, filter, menthol	*	19	18	18
Vogue (colors)	King size, filter, (hard pack)	12	13	13	13
Vogue (black)	King size, filter, (hard pack)	19	20	18	20
Wings	King size, filter	21	20	*	*
Winston	King size, filter, (hard pack)	21	22	21	21
Winston	King size, filter	21	21	21	21
Winston	100 mm filter	22	22	21	21
Winston	100 mm, filter, menthol	22	22	21	21
Yukon	100 mm filter, (hard pack)	21	*	*	*
Yukon	King size, filter, menthol	20	20	20	20

1 TPM dry (tar) - milligrams total particulate matter less nicotine and water

* Denotes varieties not available during market sampling.

PM3001059198

Listing of Nicotine Values for Four (4) Testing Periods

Brand	Type	Oct., 1968	Feb., 1969	July, 1969	Nov., 1969
Alpine	king size, filter, menthol	1.2	1.3	1.3	1.3
Belair	king size, filter, menthol	1.5	1.6	1.5	1.5
Benson & Hedges	reg. size, filter, (hard pack)	1.3	1.4	1.4	1.4
Benson & Hedges	king size, filter, (hard pack)	1.4	1.5	1.5	1.5
Benson & Hedges	100 mm filter	1.3	1.5	1.5	1.4
Benson & Hedges	100 mm, filter, menthol	1.4	1.5	1.5	1.4
Bull Durham	king size, filter	1.7	1.9	1.9	1.8
Camel	reg. size, non-filter	1.4	1.6	1.6	1.6
Camel	king size, filter	1.3	1.3	1.4	1.4
Carlton	king size, filter	0.3	0.4	0.3	0.4
Cascade	king size, filter, menthol	0.2	0.3	*	*
Century	100 mm filter	1.4	1.5	1.4	1.3
Chesterfield	reg. size, non-filter	1.2	1.4	1.4	1.3
Chesterfield	king size, non-filter	1.5	1.6	1.7	1.6
Chesterfield	king size, filter	1.3	1.5	1.5	1.4
Chesterfield	king size, filter, menthol	1.2	1.2	1.2	1.1
Chesterfield	101 mm filter	1.2	1.3	1.3	1.5
Colony	100 mm filter	1.6	1.8	*	*
Colony	100 mm, filter, menthol	1.3	1.4	*	*
Domino	king size, non-filter	1.0	1.1	1.2	1.1
Domino	king size, filter	0.8	1.0	1.0	1.0
Domino	king size, filter, menthol	0.7	0.7	0.9	0.9
Doral	king size, filter	*	*	*	1.0
Doral	king size, filter, menthol	*	*	*	1.0
Duke of Durham	king size, filter	0.4	0.4	0.4	0.4
DuMaurier	king size, filter, (hard pack)	1.3	1.5	1.4	1.4
English Ovals	reg. size, non-filter, (hard pack)	1.8	1.9	2.1	2.1
English Ovals	king size, non-filter, (hard pack)	2.3	2.6	2.7	2.5
Fatima	king size, non-filter	1.8	1.9	1.9	1.9
Frappe	king size, filter, menthol	0.3	0.3	0.4	0.4
Galaxy	king size, filter	1.4	1.5	1.5	1.5
Gauloises Caporal	reg. size, non-filter	1.2	1.3	1.3	1.2
Gauloises Disque Bleu	reg. size, filter	1.1	1.3	1.2	1.2
Half & Half	king size, filter	1.7	1.7	1.6	1.5
Helmar	king size, filter, (hard pack)	1.5	1.5	*	*
Herbert Tareyton	king size, non-filter	1.7	1.8	1.7	1.6
Holiday	king size, non-filter	1.9	2.1	2.2	1.9
Holiday	king size, filter	1.6	1.7	1.6	1.6
Home Run	reg. size, non-filter	1.5	1.7	1.6	1.5
Kent	reg. size, filter	0.8	0.7	0.6	0.6
Kent	king size, filter, (hard pack)	1.0	1.1	1.1	1.1
Kent	king size, filter	1.0	1.1	1.1	1.0
Kent	100 mm filter	1.2	1.3	1.2	1.2
King Sano	king size, filter	0.2	0.3	0.3	0.2
King Sano	king size, filter, menthol	0.3	0.3	0.3	0.2
Kool	reg. size, non-filter, menthol	1.7	1.6	1.7	1.5
Kool	king size, filter, menthol	1.4	1.6	1.6	1.5
Kool	100 mm, filter, menthol	1.5	1.6	1.7	1.5
Lark	king size, filter	1.0	1.2	1.1	1.1
Lark	100 mm filter	*	1.3	1.3	1.1
Life	king size, filter	0.7	0.7	0.7	0.7
L & M	reg. size, filter	0.9	1.0	1.0	1.0
L & M	king size, filter, (hard pack)	1.0	1.1	1.1	1.1
L & M	king size, filter	1.1	1.2	1.2	1.1
L & M	100 mm filter	1.2	1.2	1.2	1.1
L & M	100 mm, filter, menthol	1.2	1.3	1.3	1.2
Lucky Strike	reg. size, non-filter	1.5	1.7	1.6	1.6
Lucky Filters	king size, filter	1.2	1.4	1.4	1.4
Lucky Filters	king size, filter, menthol	1.1	1.1	1.2	*
Lucky Filters	100 mm filter	1.2	1.4	1.4	1.4
Lucky Filters	100 mm, filter, menthol	1.0	1.1	1.1	*
Mapleton	reg. size, non-filter	0.8	0.9	0.9	1.1
Mapleton	king size, filter	0.8	0.9	1.0	1.0
Marlboro	king size, filter, (hard pack)	1.4	1.4	1.4	1.1
Marlboro	king size, filter	1.4	1.5	1.4	1.4
Marlboro	100 mm filter	1.5	1.6	1.6	1.5
Marlboro	100 mm, filter, (hard pack)	1.5	1.5	1.6	1.5
Marlboro	king size, filter, menthol	1.3	1.4	1.4	1.4

* Denotes varieties not available during market sampling.

Listing of Nicotine Values for Four (4) Testing Periods

Brand	Type	Oct., 1968	Feb., 1969	July, 1969	Nov., 1969
Marvels	reg. size, non-filter	0.6	0.7	0.6	0.7
Marvels	reg. size, filter	0.1	0.1	0.1	0.1
Marvels	king size, non-filter	0.8	0.9	0.9	0.9
Marvels	king size, filter, menthol	0.2	0.2	0.2	0.2
Marvels	king size, filter	0.3	0.3	0.2	0.2
Montclair	king size, filter, menthol	0.6	0.7	0.7	0.7
Newport	king size, filter, menthol, (hard pack)	1.3	1.4	1.3	1.2
Newport	king size, filter, menthol	1.4	1.3	1.3	1.2
Newport	100 mm, filter, menthol	1.4	1.4	1.4	1.3
Oasis	king size, filter, menthol	1.1	1.2	1.2	1.1
Old Gold	reg. size, non-filter	1.3	1.4	1.4	1.3
Old Gold	king size, non-filter	1.7	1.6	1.8	1.6
Old Gold	king size, filter	1.2	1.2	1.3	1.2
Old Gold	100 mm filter	*	*	*	1.5
Omar	reg. size, non-filter	1.6	1.7	*	*
Pall Mall	king size, non-filter	1.6	1.7	1.7	1.6
Pall Mall	95 mm, filter, (hard pack)	1.2	1.2	1.3	1.2
Pall Mall	95 mm, filter, menthol, (hard pack)	1.1	1.1	1.2	1.1
Pall Mall	100 mm filter	1.3	1.3	1.3	1.3
Pall Mall	100 mm, filter, menthol	1.2	1.2	1.2	1.2
Parliament	king size, filter, (hard pack)	1.0	1.1	1.1	1.0
Parliament	king size, filter	1.1	1.1	1.1	1.1
Philip Morris	reg. size, non-filter	1.6	1.6	1.6	1.6
Philip Morris Commander	king size, non-filter	2.0	2.1	2.0	1.9
Philip Morris	king size, filter	1.3	1.4	1.4	1.4
Philip Morris	king size, filter, menthol	1.3	1.5	1.5	1.1
Picayune	reg. size, non-filter	1.5	1.7	1.6	1.6
Piedmont	reg. size, non-filter	1.4	1.4	1.5	1.4
Players	reg. size, non-filter, (hard pack)	1.6	2.0	2.1	2.1
Raleigh	king size, non-filter	2.1	2.2	2.1	1.7
Raleigh	king size, filter	1.4	1.5	1.5	1.3
Salem	king size, filter, menthol	1.4	1.4	1.4	1.4
Salem	100 mm, filter, menthol	1.5	1.5	1.5	1.5
Sano	reg. size, non-filter	0.5	0.4	0.5	0.5
Sano	reg. size, filter	*	0.8	0.2	*
Silva Thins	100 mm filter	0.9	0.9	0.9	0.9
Silva Thins	king size, filter, menthol	*	0.9	0.9	1.0
Spring	100 mm, filter, menthol	1.1	1.2	1.2	1.2
Stratford	king size, non-filter	0.8	1.1	1.0	1.2
Stratford	king size, filter	0.7	0.7	0.7	0.7
Stratford	king size, filter, menthol	0.7	0.8	0.8	0.8
Sweet Cigaral	king size, filter	1.3	1.4	*	*
Tareyton	king size, filter	1.1	1.1	1.0	1.0
Tareyton	100 mm filter	1.0	1.1	1.0	1.1
Tempo	king size, filter	0.8	0.8	0.8	0.8
True	king size, filter	0.7	0.7	0.7	0.7
True	king size, filter, menthol	0.7	0.7	0.6	0.7
Tryon	king size, filter	0.9	0.9	*	0.9
Tryon	king size, filter, menthol	0.7	0.8	0.8	0.8
Viceroy	king size, filter	1.4	1.5	1.5	1.5
Viceroy	100 mm filter	1.5	1.5	1.6	1.5
Virginia Slims	100 mm filter	*	1.3	1.3	1.3
Virginia Slims	100 mm, filter, menthol	*	1.4	1.3	1.2
Vogue (colors)	king size, filter, (hard pack)	0.4	0.4	0.4	0.5
Vogue (black)	king size, filter, (hard pack)	0.6	0.6	0.6	0.7
Wings	king size, filter	1.6	1.5	*	*
Winston	king size, filter, (hard pack)	1.3	1.4	1.3	1.4
Winston	king size, filter	1.3	1.3	1.4	1.4
Winston	100 mm filter	1.5	1.6	1.5	1.5
Winston	100 mm, filter, menthol	1.5	1.6	1.5	1.5
Winston	100 mm, filter, (hard pack)	1.5	*	*	*
Yukon	king size, filter, menthol	0.8	0.8	0.8	0.9

* Denotes varieties not available during market sampling.